

Phase I: Concept Exploration

Introduction

Phase 1, Concept Exploration, is concerned with exploring alternative concepts for correcting the deficiency(ies) described in the MNS. Competitive, parallel, short term studies by the Government and/or industry will normally be used during this phase. The focus is on defining and evaluating the feasibility of alternative concepts and providing the basis for assessing the relative merits of the concepts at KDP 2.

Phase Objectives:

- Charter the Program Manager and establish or assign a project office and project matrix organization.
- Develop and evaluate a suitable, feasible, acceptable and affordable set of alternative concepts.
- Explore the concepts and select one or more to be carried forward into the acquisition process.
- Identify the potential risks for each concept.

Phase Activities:

- Prepare the Project Management Plan (PMP)
- Develop operational requirements and prepare the Preliminary Operational Requirements Document (PORD).
- Develop the Phase 1 Proposal (P1P).
- Develop the Acquisition Plan (AP).
- Explore the concepts and assess the major strengths and weaknesses of each.
- Conduct the Environmental Impact Analysis.
- Evaluate the applicability of non-development items/commercial- off-the-shelf items (NDI/COTS) as a viable technology for incorporation in the design concept and/or acquisition strategy.
- Initiate test and evaluation planning and prepare the Test and Evaluation Master Plan (TEMP).
- Initiate logistics support planning and prepare the Integrated Logistic Support Plan (ILSP).
- Initiate risk management planning and prepare the Risk management Plan (RMP).
- Conduct cost analysis and develop the Life Cycle Cost Estimates (LCCE) and conduct Cost Benefit Analysis (CBA).
- Develop the Acquisition Project Baseline (APB).
- Prepare the technical data package.
- Summarize the accomplishments and activities of the phase and prepare an Acquisition Phase Summary (APS).
- Develop Exit Criteria for the next phase.

Human Factors/Safety Concerns in Phase 1

- From the HF/S viewpoint, the critical HF/S activity in Phase 1 is the top down requirements analysis which supports the identification and decomposition of system functions and requirements, allocates the functions to human performance or automation, and assesses alternate concepts for performing the functions to satisfy the requirements.
- As Phase 1 is concerned with developing a suitable, feasible, acceptable and affordable set of alternative concepts, the HF/S process is directed at developing HF/S concepts, notably (1) the concepts for the roles of humans vice automation, which result from the function allocation activity, and (2) concepts for automating, consolidating, eliminating and simplifying functions.
- The Phase 1 HF/S effort includes studies and analyses to assess levels of human performance, workload and safety associated with alternate concepts.
- The final assessment of alternative concepts from a HF/S point of view emphasizes the risk and affordability of the competing concepts.